

# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT TOWNS OF SHEFFIELD, GLOVER & BARTON COUNTIES OF CALEDONIA & ORLEANS INTERSTATE ROUTE 91 SB

IM SURF (18) SOUTHBOUND:  
BEGINNING IN THE TOWN OF SHEFFIELD AT MILE MARKER 150.700 AND EXTENDING NORTHERLY ALONG INTERSTATE ROUTE 91  
(SOUTHBOUND LANE) FOR A DISTANCE OF 27,614.40 FT (5.23 MILES) TO MILE MARKER 155.930 IN THE TOWN OF BARTON.

SB LENGTH OF ROADWAY = 27,614.40 FT = (5.230 MILES)  
SB LENGTH OF PROJECT = 27,614.40 FT = (5.230 MILES)

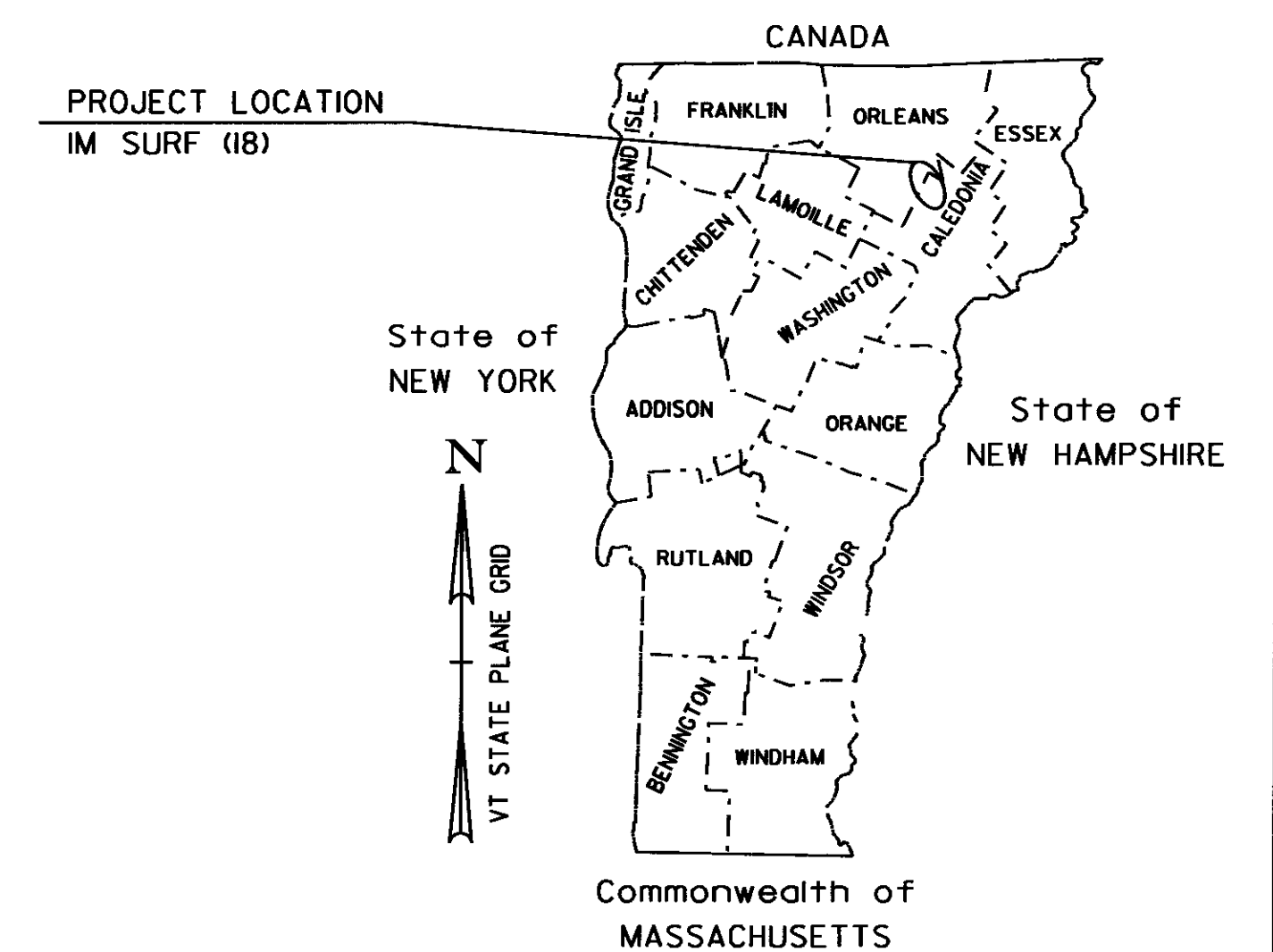
WORK TO BE PERFORMED UNDER THIS SURFACE PRESERVATION PROJECT INCLUDES ONE OF TWO ALTERNATES: ALTERNATE A INVOLVES COLD PLANING AND PAVING; ALTERNATE B INVOLVES  
HOT- IN - PLACE RECYCLING WITH FOG SEAL AND A TWO COURSE MICROSURFACING, TRAFFIC MARKINGS AND OTHER INCIDENTAL ITEMS ARE INCLUDED IN THIS PROJECT.

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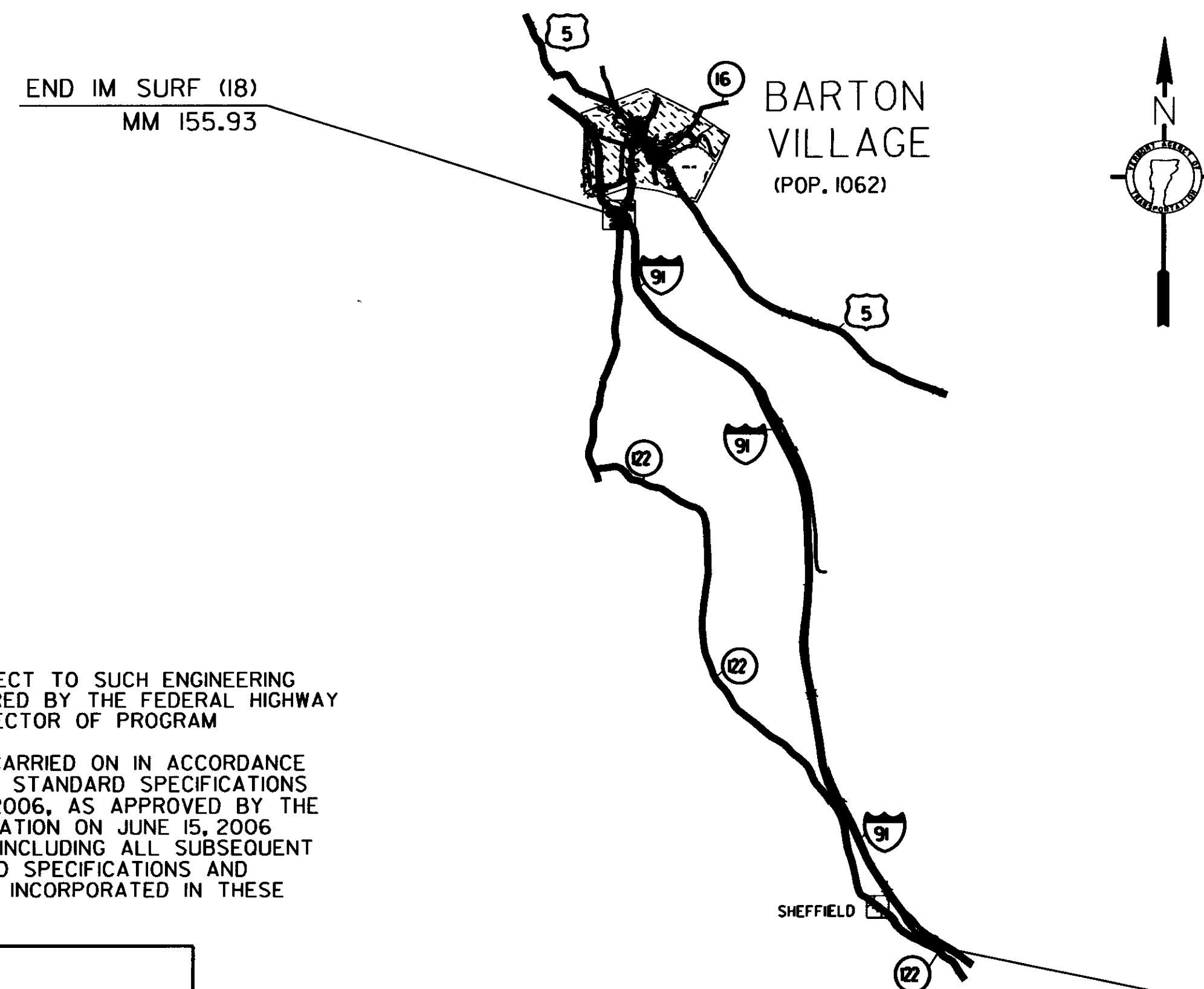
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RECORD PLANS	
CONTRACTOR	THE GORMAN GROUP, LLC - ALBANY, NY
RESIDENT ENGINEER	BRIGITTE CODLING
CONSTRUCTION BEGAN	JULY 28, 2010
CONSTRUCTION COMPLETE	SEPTEMBER 20, 2010
RECORD PLANS BY	BRIGITTE CODLING
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN	
BY	<i>Brigitte Codling</i> RESIDENT ENGINEER
DATE	April 6, 2011
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives	



BITUMINOUS CONCRETE PAVEMENT SUPERPAVE MIXTURE DESIGN CRITERIA	
DESIGN LANE / DESIGN LIFE ESAL	4,543,000
DESIGN NUMBER OF GYRATIONS	65
PERFORMANCE GRADE ASPHALT BINDER	SEE SECTION 490 GENERAL SPECIAL PROVISIONS

### TRAFFIC DATA

1-91 SOUTHBOUND	2010 AADT	2020 AADT	2010 DHV	2020 DHV	FLEXIBLE ESALS (2010-2020)	FLEXIBLE ESALS (2010-2030)
SECTION 1	2,300	2,600	350	400	1,783,000	2,271,500

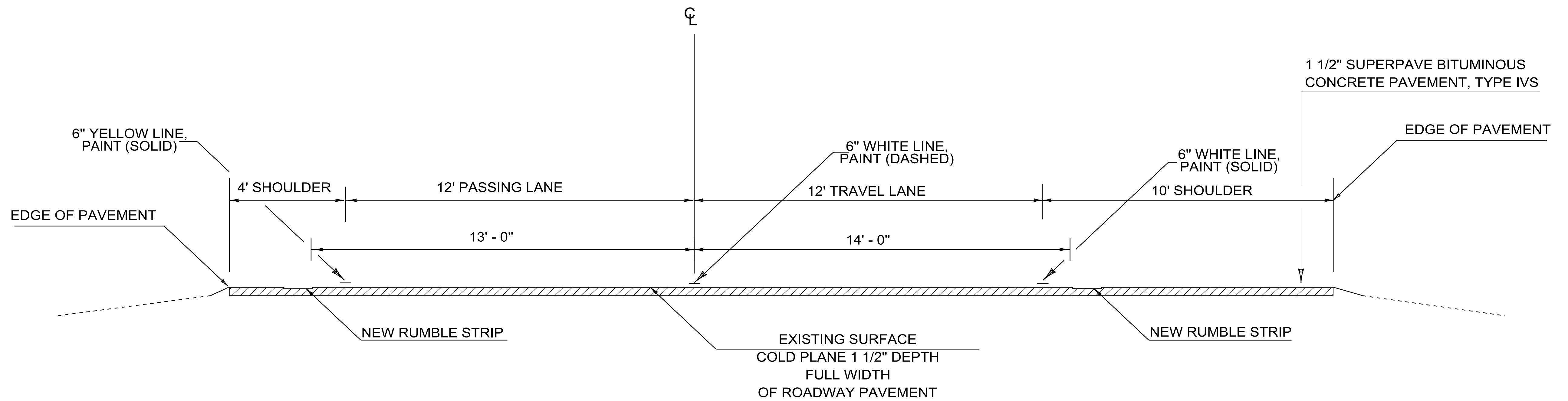
### CONVENTIONAL SYMBOLS

COUNTY LINE		COUNTY LINE
TOWN LINE		TOWN LINE
LIMITS OF ACCESS		
POINT OF ACCESS		
FENCE LINE		
STONE WALL		
TRAVELED WAY		
GUARD RAIL		
RAILROAD		
SURVEY LINE		
CULVERT		
POWER POLE		
TELEPHONE POLE		
TREES		
CONTROL OF ACCESS		
PROPERTY LINE		
R.O.W. TAKING LINE		
SLOPE RIGHTS		
TOP OF CUT		
TOE OF SLOPE		

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.  
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SURVEYED BY :	
SURVEYED DATE :	
DATUM	VERTICAL HORIZONTAL

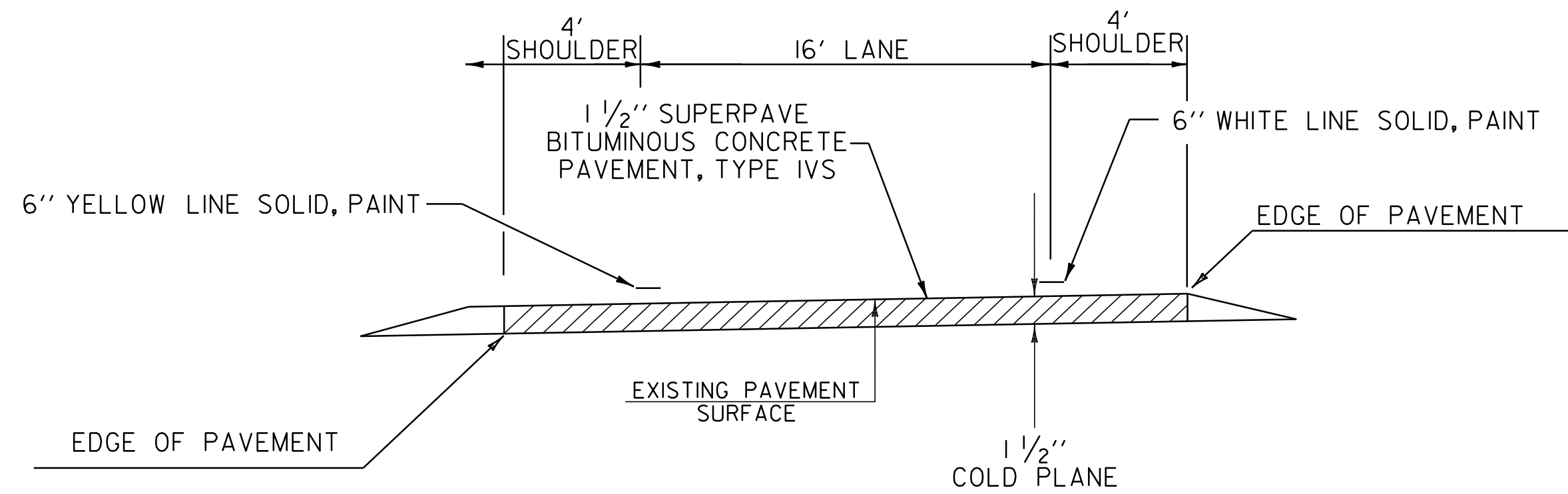
DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED <i>Richard J. Stewart</i>	DATE 3-22-10
PROJECT MANAGER : MIKE FOWLER	
PROJECT NAME : SHEFFIELD - BARTON	
PROJECT NUMBER : IM SURF (18)	
SHEET 1 OF 9 SHEETS	



**PROJECT TYPICAL SECTION  
I - 91 SOUTHBOUND - M.M. 150.700 - M.M. 155.930  
MIRROR IMAGE OF NB LANE  
NOT TO SCALE**

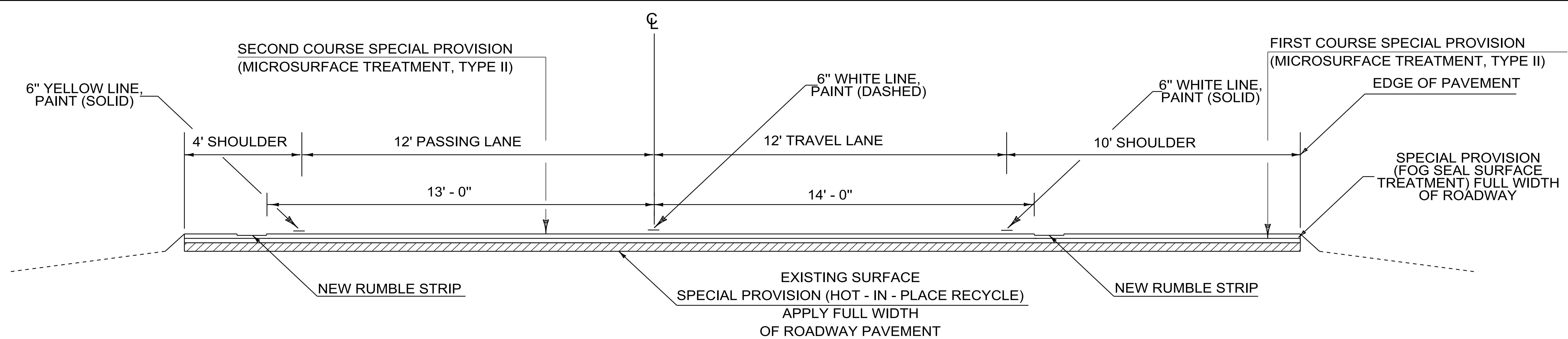
**NOTES**

1. THE PAVEMENT WEARING COURSE SHALL BE TYPE IVS ,ITEM 490.30 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT AS SHOWN ON THE TYPICAL.
2. SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TOLERANCE = +/- 1/4" (TOTAL PAVEMENT THICKNESS)
3. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING PAVEMENT SURFACES, ON ALL COLD PLANED SURFACES AND BETWEEN ALL COURSES OF PAVEMENT AT A RATE OF 0.040 GAL/SY OR AS DIRECTED BY THE ENGINEER.
4. IN AREAS OF RUTTING THE COLD PLANE DEPTH SHOULD BE MEASURED FROM THE HIGH POINTS OF THE ROADWAY SECTION.
5. COLD PLANING TO BE COMPLETED ACCORDING TO THE TYPICAL OR AS OTHERWISE NOTED ON THE PLANS. A FULL DEPTH BUTT JOINT SHALL BE CONSTRUCTED AT THE PROJECT BEGIN/END AND AT ALL RAMP APPROACHES AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL BUTT JOINTS SHALL BE SAW CUT INCIDENTAL TO ITEM 210.10.
6. THE CONTRACTOR SHALL USE CAUTION WHEN COLD PLANING AND PAVING OPERATIONS OCCUR ADJACENT TO EXISTING DROP INLETS OR CATCH BASINS. ANY DAMAGE WHICH OCCURS TO THESE DRAINAGE STRUCTURES AS A RESULT OF THESE OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE STATE.
7. ALL LANE DELINEATION IS TO BE MAINTAINED DURING CONSTRUCTION BY THE USE OF LINE STRIPING TARGETS OR TEMPORARY PAINT.

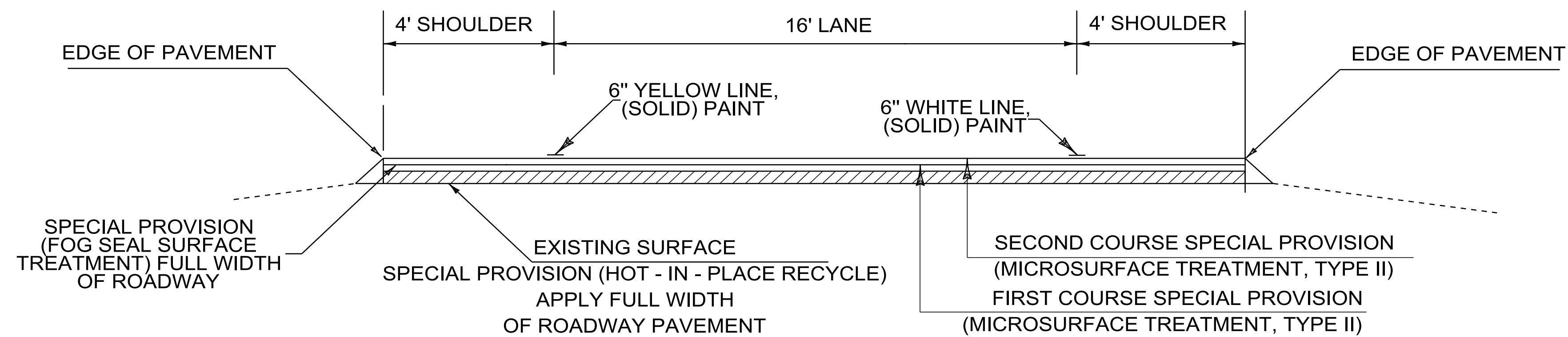


**SOUTHBOUND ON RAMP PAVEMENT TYPICAL  
NOT TO SCALE**

<b>ALTERNATE A TYPICAL SECTION - COLD PLANE &amp; PAVE</b>	PROJECT NAME: SHEFFIELD - BARTON	
	PROJECT NUMBER: IM SURF (18)	
	FILE NAME: 09a044\p09a044.dgn	PLOT DATE: 04-NOV-2011 16:14
	PROJECT LEADER: MIKE FOWLER	DRAWN BY: WILDER
DESIGNED BY: WILDER	CHECKED BY: PVMT MGMT	
IPARM FILE NAME: p09a044_02.i	SHEET 2 OF 9	



**PROJECT TYPICAL SECTION  
I - 91 SOUTHBOUND - M.M. 150.700 - M.M. 155.930  
MIRROR IMAGE OF NB LANE  
NOT TO SCALE**



**SOUTHBOUND ON RAMP PAVEMENT TYPICAL  
NOT TO SCALE**

**NOTES:**

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING THE ENGINEER ACTUAL YIELD FOR THE RECYCLING AGENT USAGE FOLLOWING A DAY'S PRODUCTION TO ENSURE MIX DESIGN TOLERANCES ARE MET. HOT- IN-PLACE RECYCLING DEPTH TOLERANCES = +/- 1/4" TREATMENT DEPTH.
2. MAINLINE MICROSURFACING SHALL BE APPLIED IN TWO COURSES. EACH COURSE SHALL BE APPLIED FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT AS SHOWN ON THE PROJECT TYPICAL SECTION . AN APPLICATION RATE OF 16 LBS/SY FOR EACH COURSE HAS BEEN USED FOR THE PURPOSES OF QUANTITY CALCULATION.
3. ALL LANE DELINEATION IS TO BE MAINTAINED DURING CONSTRUCTION BY THE USE OF LINE STRIPING TARGETS OR TEMPORARY PAINT. FOG SEAL SHALL BE APPLIED AT THE RATE OF 0.15 GAL./S.Y. WITH A TOLERANCE OF(+/- 0.05 GAL./S.Y.).
4. FOG SEAL SHALL BE APPLIED PRIOR TO MICROSURFACING APPLICATION WITH THE EXPECTATION THAT THE FIRST MICROSURFACE COURSE WILL BE APPLIED WITHIN 24 TO 48 HOURS OF FOG SEAL APPLICATION OR AS DIRECTED BY THE ENGINEER.
5. NO COLD PLANING IS NEEDED UNDER THIS ALTERNATIVE. ALL MICROSURFACING SHALL BE FEATHERED AS DIRECTED BY THE RESIDENT ENGINEER AT THE BEGINNING/END PROJECT LIMITS, THE END OF INTERCHANGE # 25 RAMP "B" AND AT ALL U-TURNS.

**ALTERNATE B  
TYPICAL SECTION -  
HOT IN - PLACE  
RECYCLE**

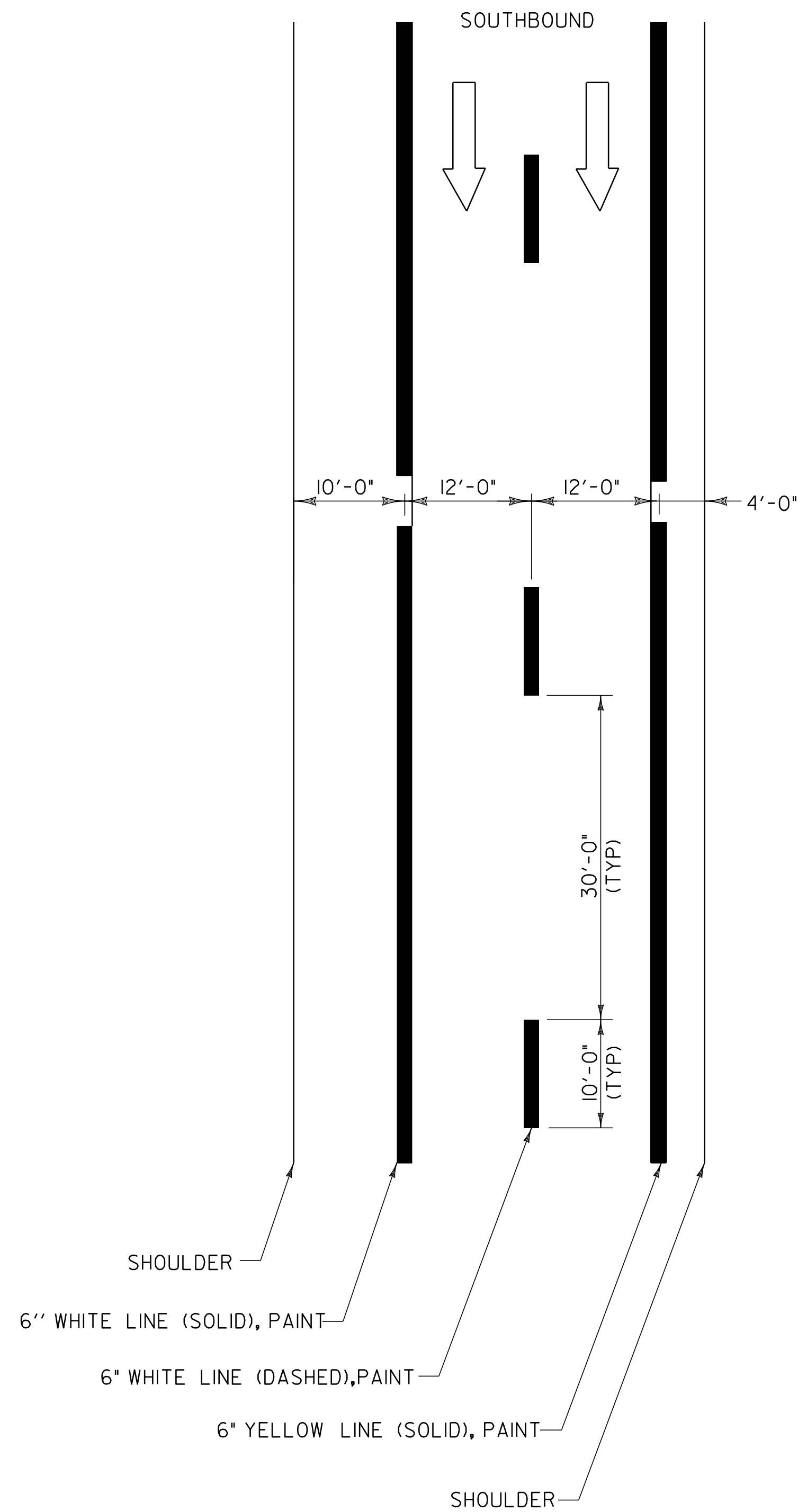
PROJECT NAME: SHEFFIELD - BARTON  
PROJECT NUMBER: IM SURF (18)

FILE NAME: 09a044\p09a044.dgn  
PROJECT LEADER: MIKE FOWLER  
DESIGNED BY: WILDER  
IPARM FILE NAME: p09a044\_03.i

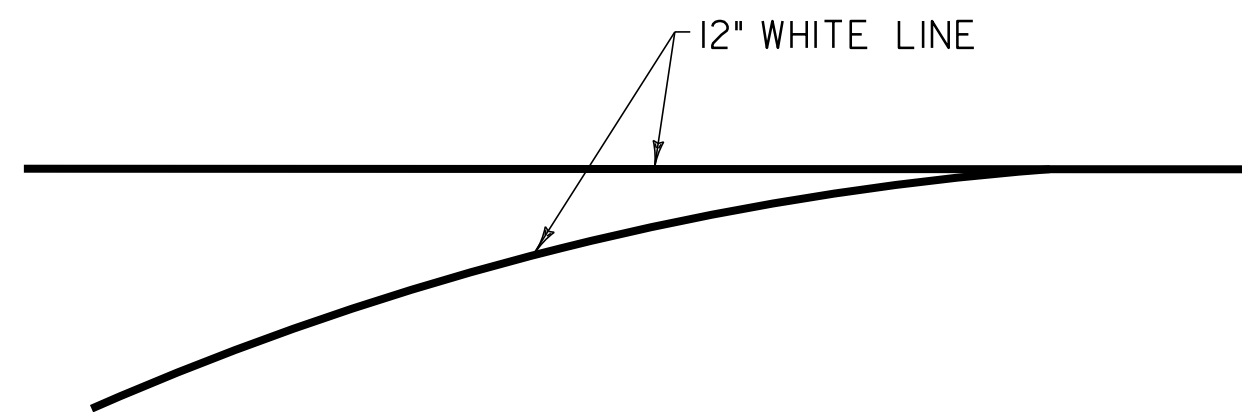
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DRAWN BY: WILDER  
CHECKED BY: PVMT MGMT  
SHEET 3 OF 9



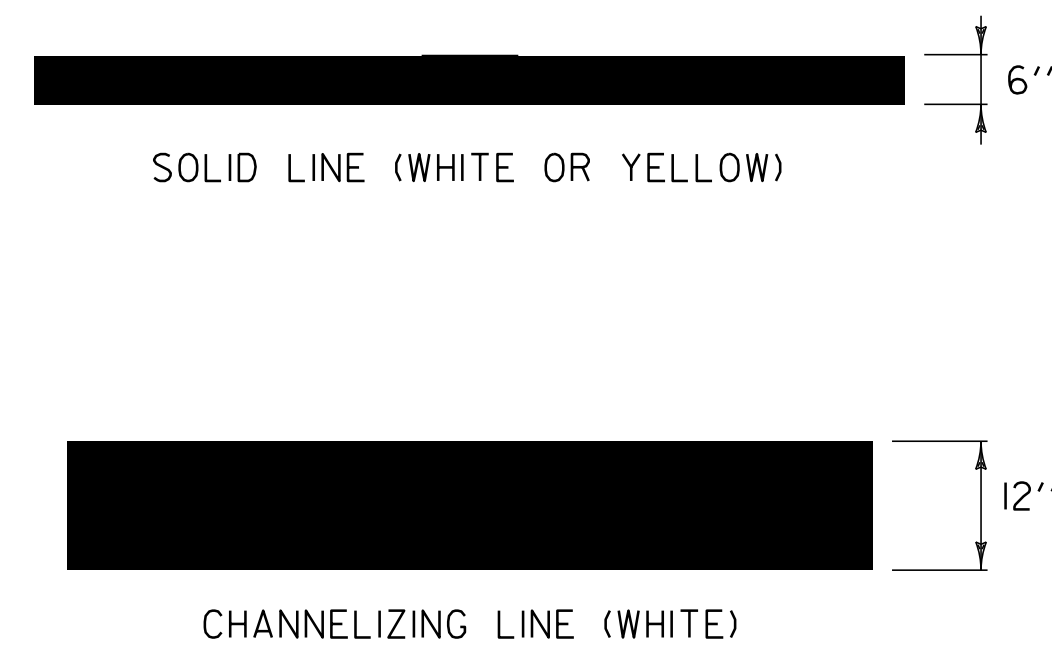




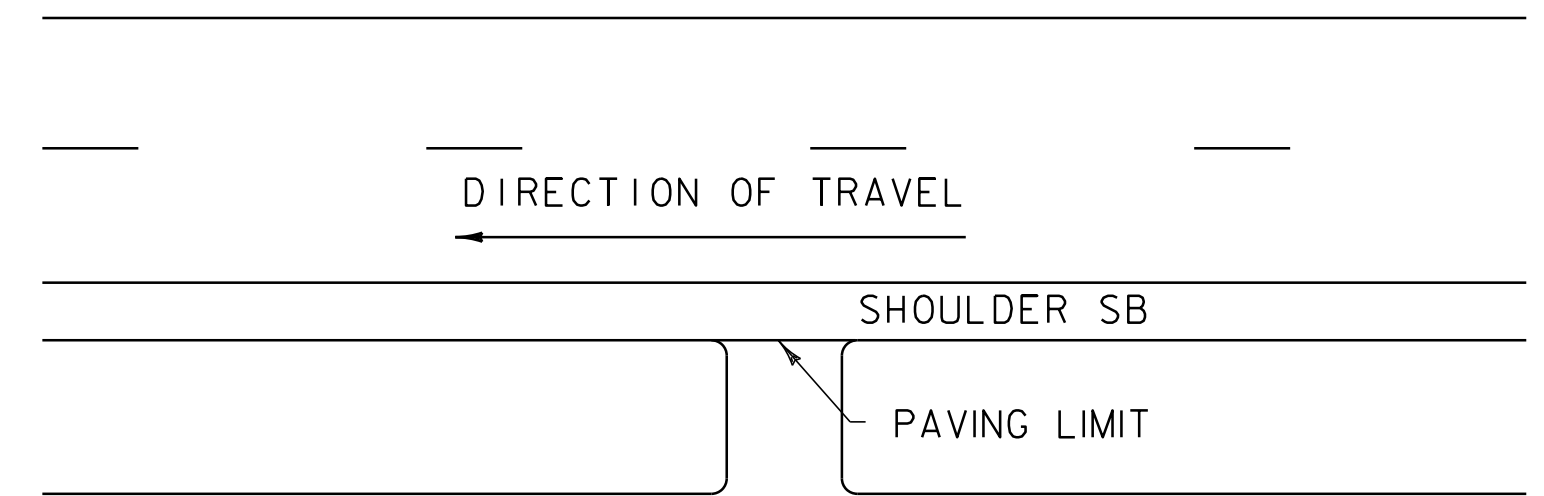
**TYPICAL MAINLINE MARKING PLAN**  
NOT TO SCALE



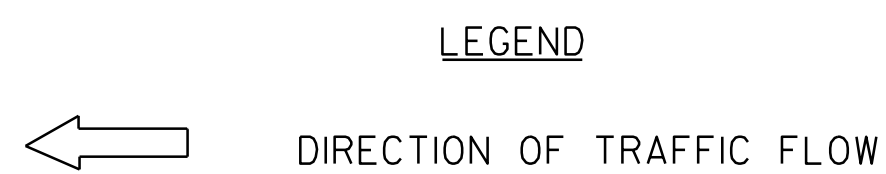
**GORE MARKING DETAIL**  
NOT TO SCALE



**PAVEMENT MARKING LINE DETAILS**  
NOT TO SCALE



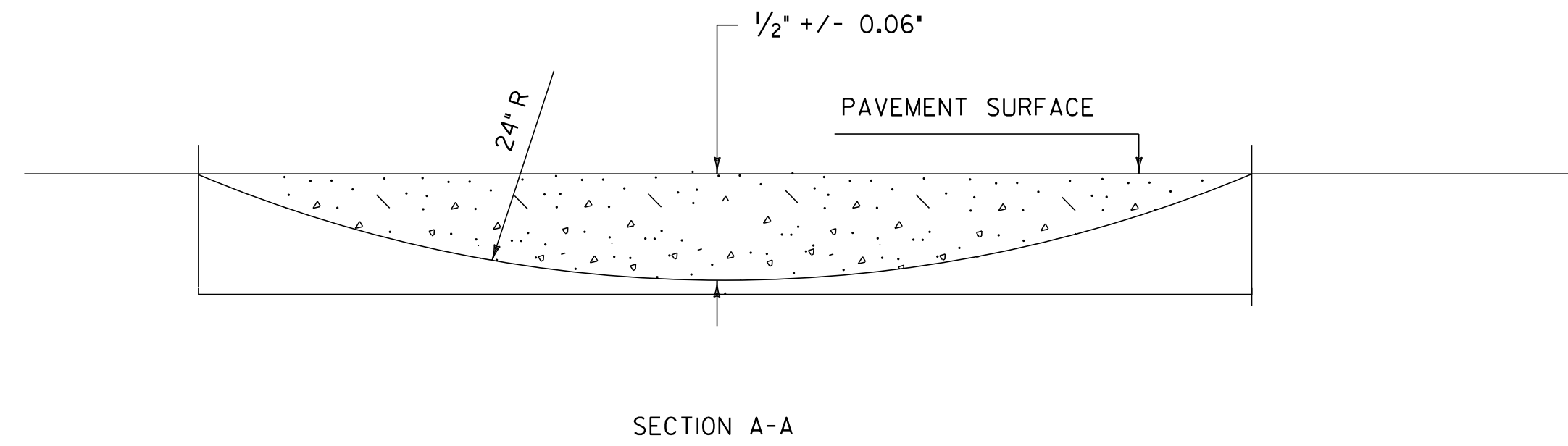
**PAVING LIMITS AT U-TURNS**  
NOT TO SCALE



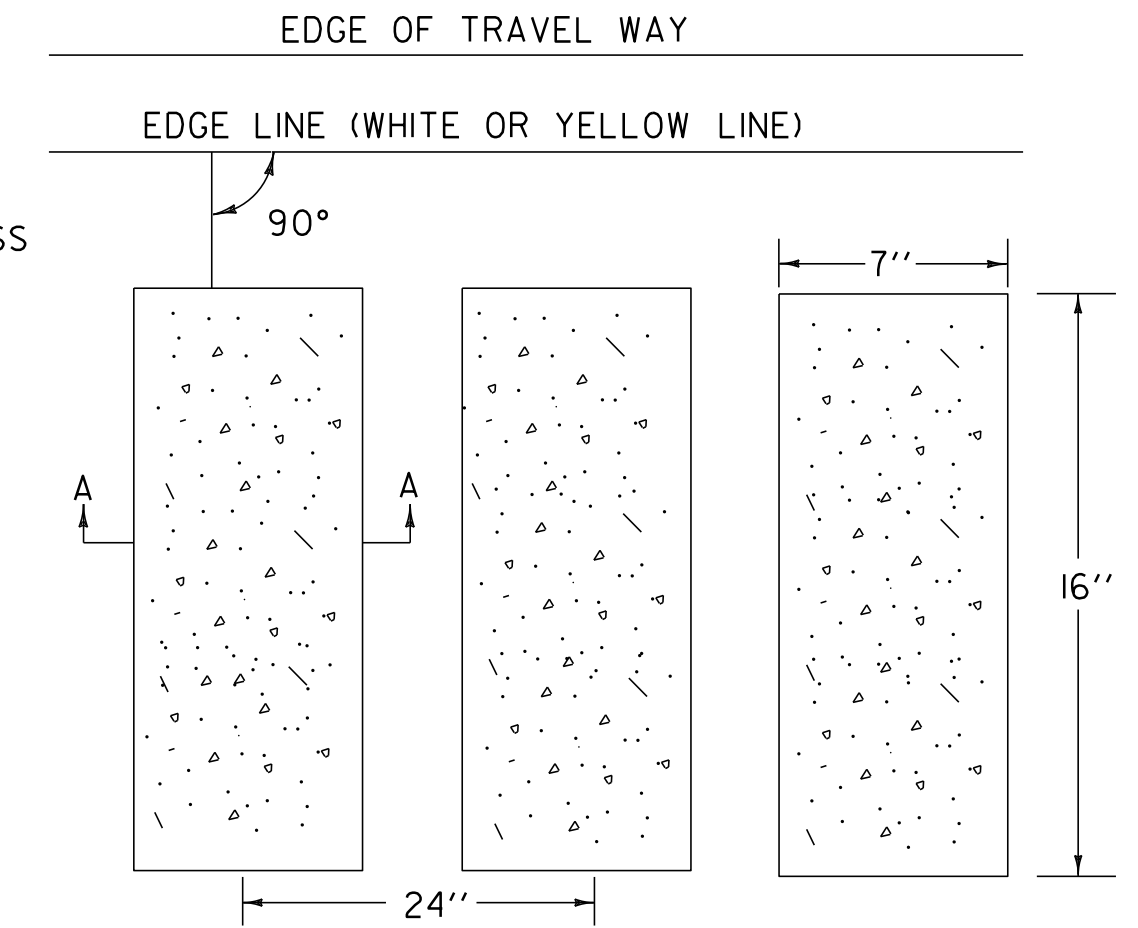
**NOTES:**

1. TWO (2) APPLICATIONS OF FINAL PAVEMENT MARKINGS WILL BE REQUIRED ON BOTH ALTERNATIVE TREATMENTS. THE FIRST APPLICATION WILL BE IMMEDIATELY FOLLOWING PLACEMENT OF THE SURFACE TREATMENT. THE SECOND AND FINAL APPLICATION WILL BE APPLIED NO SOONER THAN 14 CALENDER DAYS AFTER THE FIRST APPLICATION, AND NO LATER THAN SEPTEMBER 17, 2010.

<b>DETAIL SHEET</b>	PROJECT NAME:	SHEFFIELD - BARTON
	PROJECT NUMBER:	IM SURF (18)
	FILE NAME: p09a044.dgn	PLOT DATE: 04-NOV-2011 6:15
	PROJECT LEADER: MIKE FOWLER	DRAWN BY: WILDER
DESIGNED BY: WILDER	CHECKED BY: PAVT MGMT	
IPARM FILE NAME: p09a044_06.i	SHEET 6 OF 9	

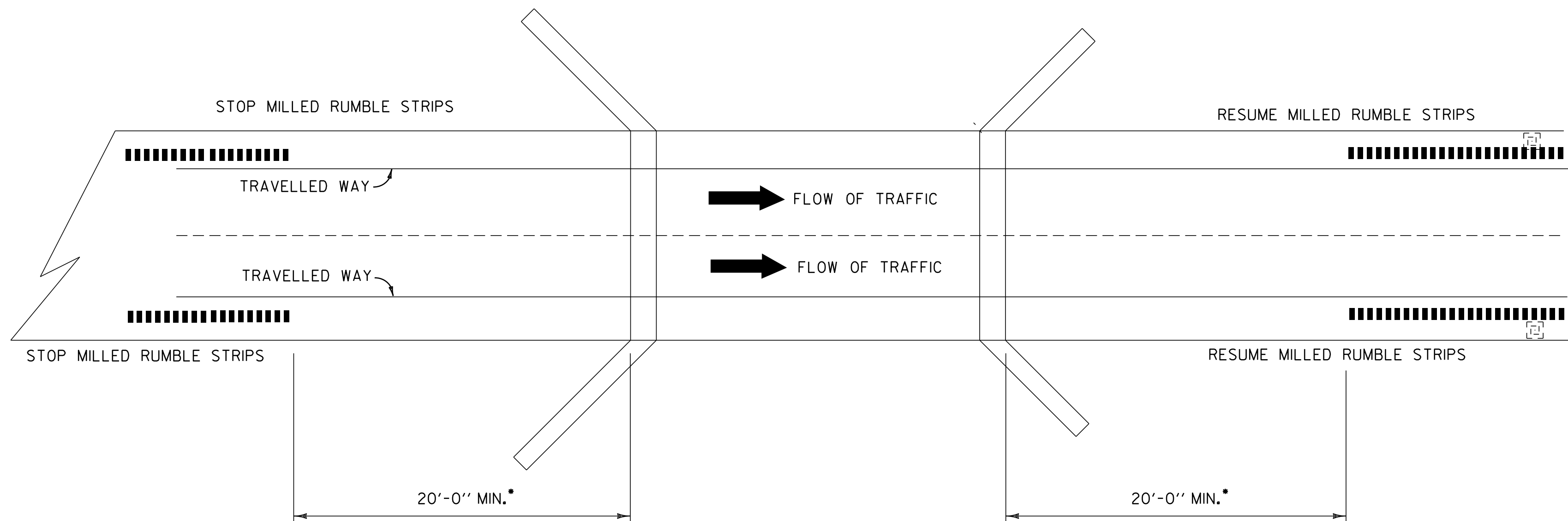


30" FROM EDGE LINE (WHITE OR YELLOW ) FOR ALL SHOULDERS 6'-0" OR WIDER WITH NO GUARDRAIL. 6" FROM EDGE LINES (WHITE OR YELLOW) FOR ALL SHOULDERS LESS THAN 6'-0" WIDE WITH NO GUARDRAIL.



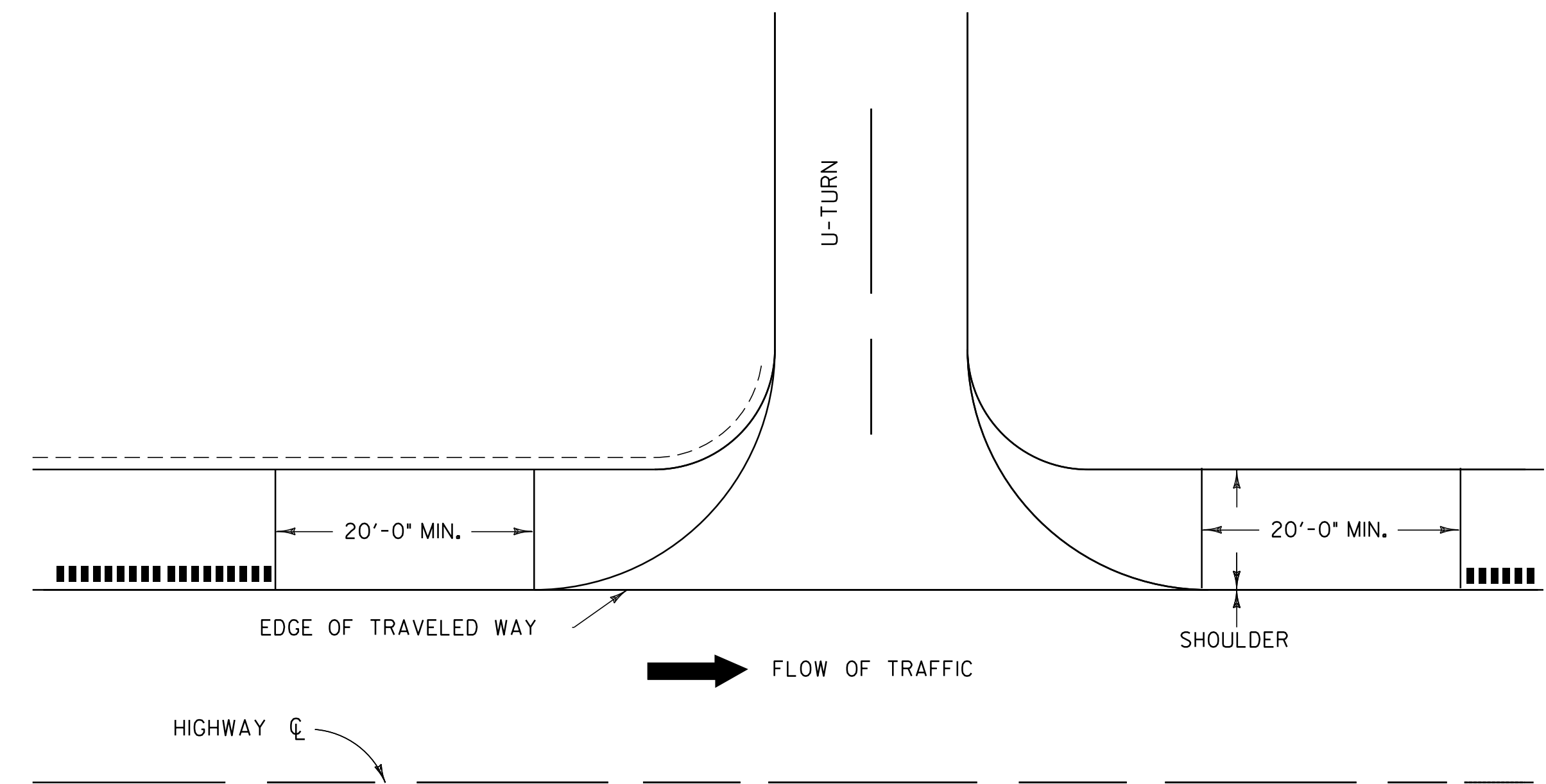
NOTE: STOP MILLED RUMBLE STRIPS WITH GUARDRAIL WITHIN 4'-0" OF TRAVEL WAY.

### TYPICAL RUMBLE STRIP MILLING DETAIL



1. APPROACH RAIL WILL DETERMINE MINIMUM DISTANCE IN SOME CASES.
2. DO NOT CUT INTO CONCRETE APPROACH SLABS

### MILLED RUMBLE STRIP BRIDGE & DRAINAGE DETAIL



NOTE :THIS DETAIL MAY BE MODIFIED AT THE RESIDENT ENGINEER'S DISCRETION IF ACTUAL FIELD CONDITIONS NECESSITATE SUCH ACTIONS.

### MILLED RUMBLE STRIPS U TURN DETAIL

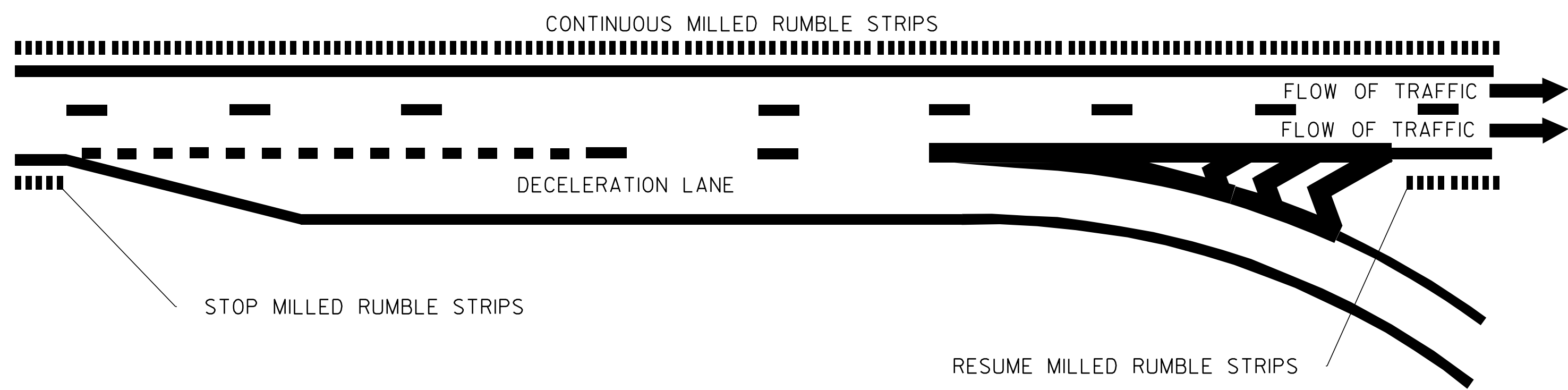
### DETAILS NOT TO SCALE

#### MILLED RUMBLE STRIP DETAILS #1

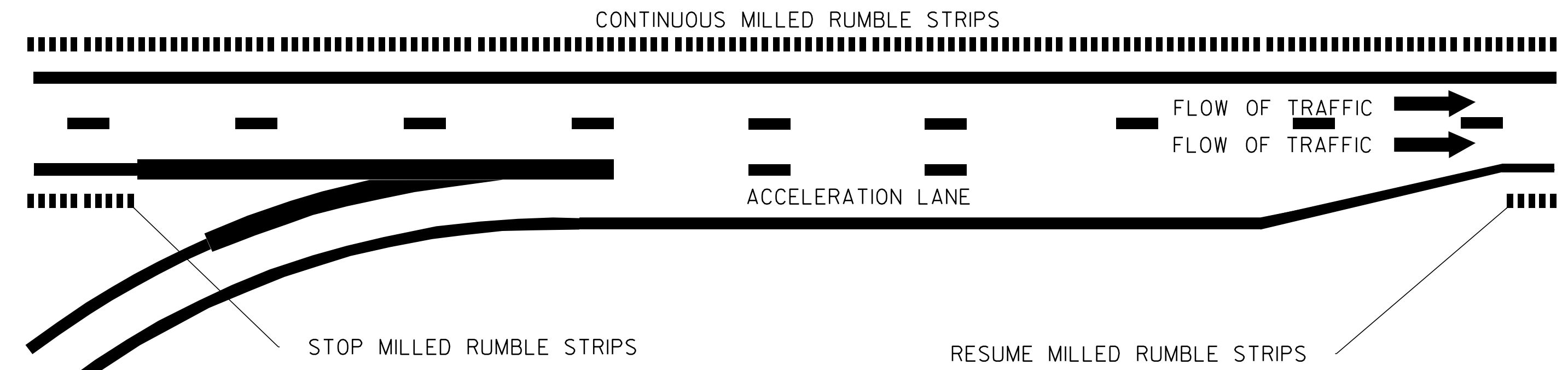
PROJECT NAME: SHEFFIELD - BARTON  
PROJECT NUMBER: IM SURF(18)

FILE NAME: p09a044.dgn  
PROJECT LEADER: MIKE FOWLER  
DESIGNED BY: WILDER  
PLOT FILE: p09a044\_08.i

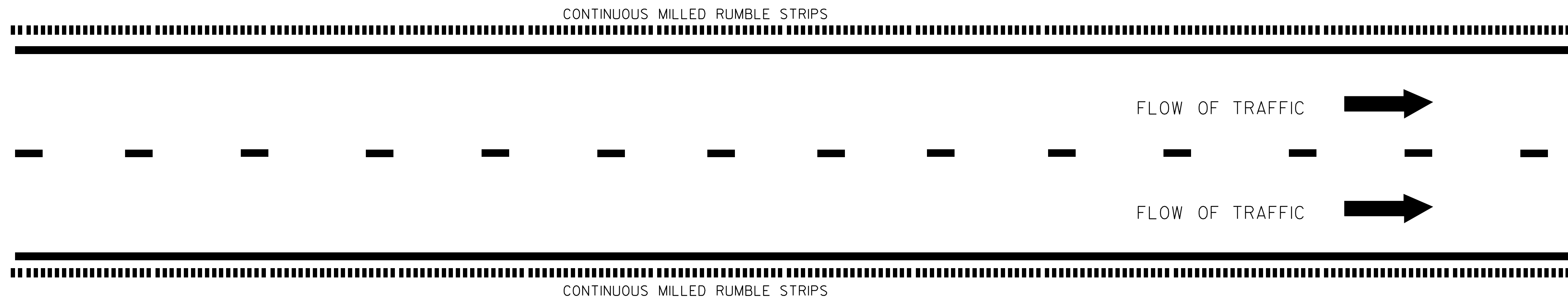
PLOT DATE: 04-NOV-2011 6:15  
DRAWN BY: WILDER  
CHECKED BY: LOCKE  
SHEET 7 OF 9



**INTERCHANGE EXIT RAMP TYPICAL**



**INTERCHANGE ON RAMP TYPICAL**



**INTERSTATE 91 SOUTHBOUND TYPICAL**

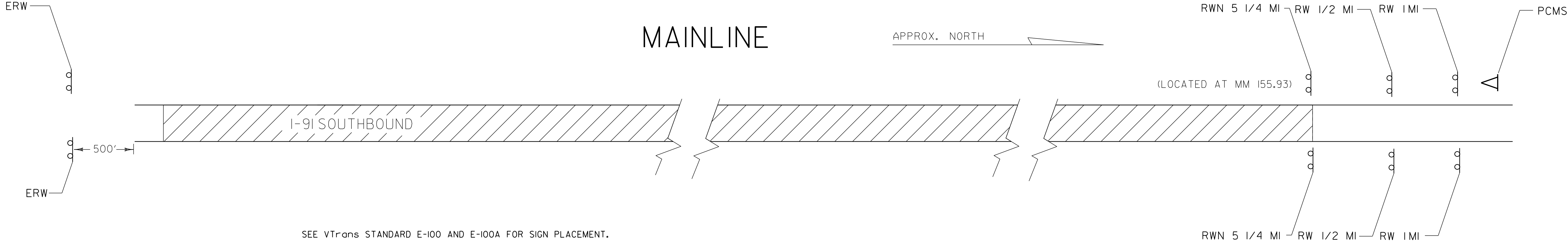
**DETAILS NOT TO SCALE**

**MILLED RUMBLE STRIP DETAILS #2**

PROJECT NAME: SHEFFIELD - BARTON  
PROJECT NUMBER: IM SURF(18)

FILE NAME: p09a044.dgn  
PROJECT LEADER: MIKE FOWLER  
DESIGNED BY: WILDER  
PLOT FILE: p09a044\_09.i

PLOT DATE: 04-NOV-2011 16:15  
DRAWN BY: WILDER  
CHECKED BY: LOCKE  
SHEET 8 OF 9

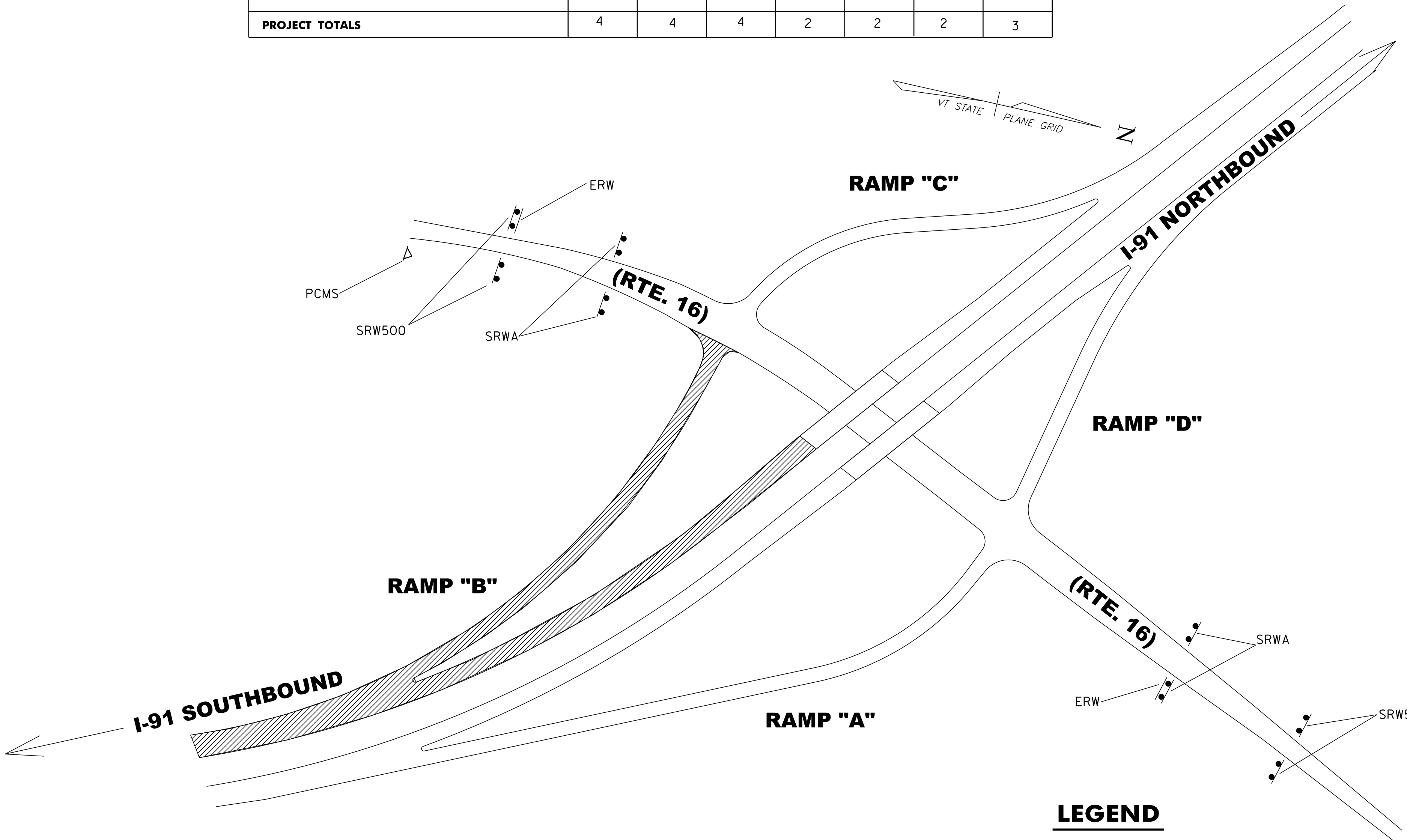
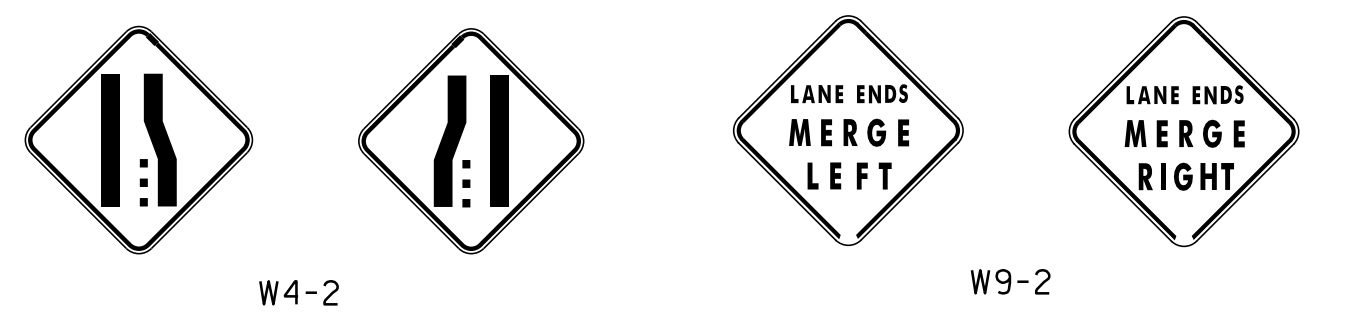


SEE VTrans STANDARD E-100 AND E-100A FOR SIGN PLACEMENT.

LOCATION	ERW	SRW500	SRWA	RW 1 MI	RW 1/2 MI	RWN 5 1/4 MI	PCMS
<b>INTERSTATE 91 SOUTHBOUND - BEGIN PROJECT</b>				2	2	2	1
<b>INTERSTATE 91 SOUTHBOUND - END PROJECT</b>	2						
<b>VT. ROUTE 16</b>	2	4	4				2
<b>PROJECT TOTALS</b>	4	4	4	2	2	2	3

**NOTES:**

1. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE RESIDENT ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL NOT BE PAID SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "TRAFFIC CONTROL", ITEM 64I.10.
2. THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN APPROACH PACKAGE FOR EXPECTED LANE CLOSURES AND WORK ZONE SPEED REDUCTIONS IN COMPLIANCE WITH VTRANS STANDARD E-103. PAYMENT FOR PROVIDING THIS PACKAGE SHALL BE INCIDENTAL TO "TRAFFIC CONTROL", ITEM 64I.10.
3. ADDITIONAL RAMP SIGNING MAY BE REQUIRED AS DIRECTED BY THE RESIDENT ENGINEER AND SHALL BE INCIDENTAL TO "TRAFFIC CONTROL", ITEM 64I.10.
4. THE BID PRICE FOR "TRAFFIC CONTROL", ITEM 64I.10, SHALL INCLUDE ALL APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, PORTABLE ARROW BOARDS, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS, AND POSTS AS DETAILED IN VTRANS STANDARDS. ALL ADJUSTING, RELOCATING, AND REMOVING OF THESE DEVICES AS DIRECTED BY THE RESIDENT ENGINEER SHALL ALSO BE INCLUDED. THE FOLLOWING ITEMS WILL BE PAID FOR SEPARATELY:  
630.10 AND 630.15 - UNIFORMED TRAFFIC OFFICERS AND FLAGGERS
5. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PROVIDED FOR USE ALONG THIS PROJECT. THE PLACEMENT OF THESE UNITS AS WELL AS THE MESSAGE WILL BE APPROVED BY THE RESIDENT ENGINEER. THESE SIGNS WILL BE PAID FOR UNDER ITEM 64I.15, "PORTABLE CHANGEABLE MESSAGE SIGN".  
PCMS SHOULD NOT REPLACE ANY OF THE SIGNING DETAILED IN THE MUTCD AND SHOULD NOT BE USED IF STANDARD TRAFFIC CONTROL DEVICES ADEQUATELY PROVIDE THE INFORMATION THE MOTORISTS NEED TO TRAVEL SAFELY.  
  
THE PCMS SHOULD COMMUNICATE WHAT INFORMATION MOTORISTS NEED TO KNOW. UNNECESSARY INFORMATION SHOULD BE AVOIDED. MESSAGES SHOULD BE UPDATED PERIODICALLY TO DESCRIBE THE WORK ACTIVITY OCCURRING SO THAT THE PCMS CONTINUES TO COMMAND THE ATTENTION OF MOTORISTS.
6. THE LATEST REVISION OF THE 2009 MUTCD SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES. EXISTING SIGNS, SIGNALS AND MARKINGS SHALL BE VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERRECTED OR PLACED OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH SUCH STANDARDS.
7. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS.
8. REFER TO VT. STATE STANDARDS AND THE MUTCD FOR TEMPORARY TRAFFIC CONTROL SIGN DIMENSIONS AND COLORS.
9. ON VTRANS STANDARD E-103, SIGN W4-2 SHOULD BE REPLACED WITH W9-2:



**LEGEND**

- ERW - END ROAD WORK
- RW500 - ROAD WORK 500
- RWA - ROAD WORK AHEAD
- RWN - ROAD WORK NEXT 5 1/4
- PCMS - PORTABLE CHANGEABLE MESSAGE SIGN
- SRW500 - SIDE ROAD WORK 500
- SRWA - SIDE ROAD WORK AHEAD
- WORK AREA

**CONSTRUCTION  
APPROACH SIGNING  
SHEET**

PROJECT: <b>SHEFFIELD - BARTON</b>	PROJECT NO. : <b>IM SURF (18)</b>
DESIGN FILE NAME: p09a044.dgn IPARM FILE NAME: p09a044.i0.i SURVEYED BY: N/A PROGRAM MANAGER : MIKE FOWLER	PLOT DATE: 04-NOV-2011 6:5 SURVEY DATE: N/A DRAWN BY: WILDER SHEET: 9 OF 9